1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

226 Three methods are employed to catch *kavea*:

The first method is *lamalama kavea*. A lighted torch is thrust into the crab hole. The torch smoulders and the smoke forces the crab from its second hole, when it is promptly caught. In the second method (*yokayoka kavea*) a pointed stick is thrust into the ground or into holes to locate the crab. The hand is then put down into the hole to draw out the crab. The third method is *wakapoa kavea*. Coconut gratings are toasted over a fire until they become highly odorous and are then placed in the bush to attract the crabs. A few hours later a man visits the place and picks up the congregated crabs.

Crab hunting and killing is *wuli tupua*. The crab is picked up by the
252 shell and, with a quick twist, the head is bent back from the mandibles and broken off. It is prepared for eating by roasting.

Bird Catching

223 Of old, birds were caught principally for food, though the feathers were
237 used secondarily as decorations for the hair and for the malo made of sennit. Today feathers are used as flies in fishing.

Birds are part of the reserve land foods and are tapu for most of the
422 time. A decision to lift the tapu is announced to the people by the guards.
621 The young men communally gather the birds which are divided among the people of the village. Small land birds are occasionally caught privately.

223 All birds are considered a great delicacy, but the young *lakia* bird is preferred. The owner of a new canoe might formerly obtain permission from
223 the village to visit the reserves to procure quantities of *lakia* for the feast
262 which marked the conclusion of the work on the canoe. The birds were shared among the people of the village and the canoe afterward referred to as *waka kai lakia*.

231 Birds were never kept as pets or decoys. When caught as a fledgling, a
223 bird was placed alive in a cone-shaped coconut-leaf basket (fig.16)[1] and transported back from the reserve therein. The basket with the bird was suspended from a tree near the cook house. The bird was fed with coconut flesh; a new basket was made when the bird grew bigger. When the bird matured, it was killed and eaten. Today a bird is occasionally kept in a small four-sided wooden box hung on a tree near the house. Its wings are broken to prevent escape. It is fed by the children and killed when mature. One man in Yato keeps two semi-wild *noa* birds tied by the leg to a log near his house. When they escaped one day and walked through the village, everyone ran before them with shouts of "Kai tangata!" (Man-eater). It was some time before the birds were recaptured and the village settled down again to normal routine.

223 1. Netting. The method of catching birds by use of the bird net (*awata*) is termed *wakayei mawa* (to encircle the bird with a net). (For technical details of the construction of the net, see p. 309).

1. [See p.190, category III — analysis]

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

mated privately that they will make a food contribution. The levied amount is sent to the main food collection along with the food received from the friendly households; when the food division is made, each friendly household receives in return from its Ngake friends the amount that it contributed, but the return gift is taken from reserve stocks that the Ngake household has made, over and above its levied contribution. A little extra food may be taken from the share of the Ngake household and added to the return gift so that families from other villages may receive the precise amount of food that they contributed plus a little more from the main division. The reciprocity is complete, but the addition to the return gift, a bit of fish or a few nuts, creates the cultural fiction that the host lineage has fulfilled required patterns of generosity. The food exchange has helped seal bonds of friendship between two households, without seriously impoverishing the hosts.

Official food dividers (*tangata tau popoa*) function for the big feasts:

Formerly, the group of elders (*tupele*) chose its own food dividers for the fish brought to it by the men's fishing groups. The chiefs had their own dividers for *laukavu* feasts, as did the paternal lineages and villages for their feasts. The food dividers were skilled men. Their position was not hereditary; if they were careless or cheated, they were summarily dismissed. With the exception of the dividers for the old men, who received certain pickings but who might not share in other foods reserved solely for the chief, the food dividers were supposed to share equally with the people for whom the division was made, though in fact they might secretly reserve for themselves as their own share better portions of fish or slightly larger talo puddings.

When the *tangonga* group of fishermen (p. 281) returned each day from fishing, the canoes were met by the two food dividers for the old men, who carried the fish from the canoes to the dividing place. When neither of the food dividers was able to carry a big fish to the meeting place (*awonga*), the old men called for volunteers, and the man who could carry the fish was given the privilege of dividing it.

FOOD PREPARATION

The staple foods of Pukapuka are fish, coconuts, and talo. Fish and coconuts are eaten every day, talo less often; but talo is important as a quality food which gives variety to an otherwise monotonous diet. Most talo dishes consist basically of a mixture of talo and coconut cream (*lolo*). Two standardized methods of wrapping food in bundles preparatory to baking are used only for talo dishes (fig. 6). Each food eaten, whether fish, talo, or coconut has a definite food complement (*kinaki*) which is eaten with it to make a complete meal.

The two methods of cooking food are oven baking (*tao*) and grilling (*tunu*) on hot stones or embers. Grilling is the preferred method for cooking fish.

Fire

Fire (*awi*) was formerly produced with the fire plough. The method was demonstrated to me. The hearth stick of *puapua* wood is called *laku ika awi*. The rubbing stick, also of *puapua* wood, is *kawaki*. The hearth groove is *ilanga*. To rub the stick on the hearth is *tuiku*, and to make fire thus is *maka awi*.

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The operator procures a piece of *puapua* wood from which the bark has been removed. This wood is about 4 feet long and 1 inch in diameter and has numerous grooves on it from previous use. The operator splits the end of the stick and cuts off a section to use as a rubbing stick 9 inches long, ¾ inch thick at the proximal end (*mulimuli*), and about ¼ inch thick at the distal end (*muto*). The distal end is shaped to a rostral point by a transverse cut with a knife. A few slices of wood are also taken off the hearth stick to form a flat surface to rub on. The point of a knife, formerly a sharp pointed shell, is pressed into the distal end of this flat surface to form a hole which serves as a blockage point for the farthest distal movement of the rubbing stick. An assistant crouching over the stick firmly holds the distal end of the hearth stick (*poliyoli te lakau*) with foot and hand. The operator sits on the floor and locks one leg over the hearth. He holds the rubbing stick so that the crossed thumbs are placed beneath the stick; the flexed fingers of the right hand are placed over the stick and on them are laid the flexed fingers of the other hand. The grip is close to the distal end of the stick, 3½ inches from the point. He crouches over the stick, leaning the whole weight of his body on it while moving the stick to and fro at an angle of 45 degrees to the hearth. The groove is about 3 inches long. The operator rubs slowly at first, increasing the speed of the rubbing as the dust collects and begins to smoke. When the dust smoulders he cries, "Na tu" (It burns). The smouldering dust is carefully tipped onto a dry coconut husk and fanned or blown until the husk blazes. Some fire-makers prefer a very short rubbing stick and hold it close to the end so as to exert maximum pressure on the stick. An informant, holding his stick 3½ inches from the point, produced fire only on a second attempt.

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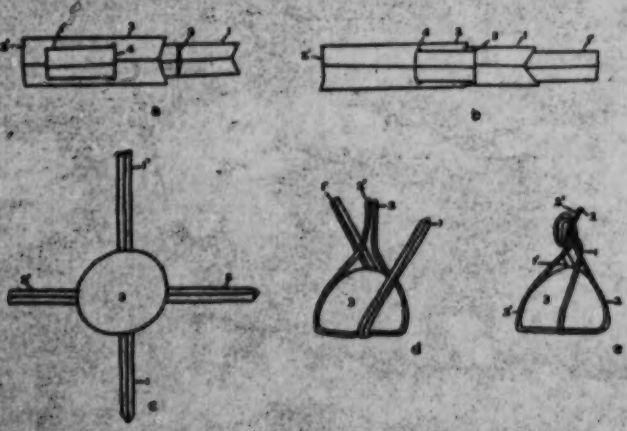

FIGURE 6.—Food packages: *a-b*, *lulu* food package; *c-e*, talo (*lolai*) food package. *a*, leaflet midribs stripped from butt ends of two coconut leaflets (1, 1′ and 2, 2′), slits (3, 4) made with thumb nail in butt ends of the leaflets, tip end of leaflet (1′) passed through slit (4) in leaflet (2); *b*, tip end of leaflet (1′) folded back, passed through slit (3) in butt end of leaflet (1) and pulled tight, length of joined leaflet placed under food package, two ends make transverse turns around package and tie with overhand knots. *c*, two coconut leaflets (1, 1′ and 2, 2′) crossed and food package (3) placed on crossing; *d*, leaflet ends (2, 2′) brought together and held with one hand; *e*, leaflet ends (1, 1′) twisted around ends (2, 2′); these ends (2, 2′) bent down over transverse turns, pushed up under transverse ends, and pulled tight.

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

372 possible to transfer fire from one cook house to another. It is a common sight in any village to see children and adults carrying fire from one cook house to another in order to start a fresh blaze.

To procure fire, one end of a coconut spathe (*tauma*) is placed in a burning fire until it ignites. As it is carried away, it is moved gently in the air to keep it flaming. To transfer fire from smouldering cinders or ashes another technique is used: a coconut spathe is held with the tip toward the body, and the butt end is folded back on itself about 12 inches from the end; a section of the spathe at the fold is shredded with the fingers; cinders or smouldering wood are picked up in the fold and carried back thus to the cook house, or else the cinders are blown upon and the shredded spathe ignited. This method is used regularly for starting fire with a match.

Ovens

343 Kitchens (*wale imu*) are small houses set back from the dwelling houses.
352 In the villages they are permanent structures, well built, of the *wale vaka-*
372 *yamoa* type (p. 111). In the copra settlements they are smaller, of rougher build, and, in the main, of the *wale toinuku* style (p. 109). The kitchen shelters the oven (*imu*) which is situated at one end, often under a lean-to shelter, so that the prevailing winds blow the smoke away from the cooks.

The oven ground is excavated to form a sunken space about 4 feet square and 18 inches deep. The edges are lined with logs to prevent the sand from falling in. The bottom is filled with oven stones (*watu imu*), blocks of coral conglomerate (*koupapa*), or, when available, imported volcanic stones (*kala*). Because the coral does not last long under heat and must be frequently renewed, *kala* stones are highly valued. *Tridacna* shells are not used as heating material.

To build the oven (*pu te imu*), coconut shells (*ngaipu*) are piled on the floor of the oven, dry coconut husks (*pikipiki*) are stood around them, and the oven stones are piled on and around the sides of the husks. The shells are lighted by a burning coconut sheath inserted under them. When the fuel has burned out (*koa matemate te imu*), the hot stones are pushed aside (*tolo te imu*) with the butt of a coconut midrib (for this purpose called *toa*). Bits of burning wood and charcoal are thrown away. So as not to burn the food a few cold coral pebbles are sprinkled on the hot ground, and the floor of the oven is covered with *puapua* leaves (*lautalou*). Food packets covered with leaves are placed on the *lautalou*. The hot oven stones are piled on top of the food packets and covered with flat bundles of *puapua* leaves tied with coconut leaflet midribs. Green coconut husks are carefully arranged on top of the leaves so as to cover them entirely. The whole is covered again with several layers of *polapola* coconut-leaf mats arranged so there are no cracks through which heat may escape. Today old copra sacks form a convenient and valued substitute for *polapola*. The whole oven covering is termed *tutao;* to cover the oven is *uwi te imu* or *tui te tutao*. Whenever a woman comes back from the talo beds, she places a bundle of *puapua* leaves on her head to serve as a pad to cushion the weight of the basket of talo and tucks more leaves into the top of the basket to keep the talo from falling out. The leaves thus brought back to the cook house are preserved for use as oven covers.

[481]

Cooking

252 Cooking is done by women. On certain rare occasions a man may
262 prepare food without disgrace: when in a group of men alone on the reserve

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252/462 lands, he grills fish for a meal; when a feast is being cooked, a man assists his wife and children; when his wife is sick or gadding about, he may cook because no one expects him to go hungry; if a man is a cripple and debarred from men's work, he may cook; if there are no older sisters, a boy may help his mother prepare the Sunday feast. The one berdache on the island spends much of his time cooking with the women. Men always prepare pigs for cooking.

264 In former days it was tapu to eat or to carry food into the sleep house. All eating was done inside the *wale imu* or out-of-doors. Even today an adult Pukapukan rarely eats in a sleep house, though children often carry food into the house.

COCONUT DISHES

262, 261 Coconut has always been the basic food of the Pukapukans. Unlike talo and fish, which are not sufficiently plentiful, coconut in some form is eaten every day. Informants regard it as the best of Pukapukan foods because it gives the greatest variety of dishes. They say that the minimum number of nuts a man in good health requires each day to keep him strong and healthy is 10 large-sized drinking nuts, besides plenty of fish. During the great famine the daily ration of each person was four nuts which, with a little fish, was the only food. This was enough to maintain life but not enough to keep the people strong.

262, 158 Coconuts are eaten exclusively by sick persons because of the tapu on their eating fish and because of the scarcity of talo. No stage of the nut or any portion of it is tapu at this time.

252 Th. coconut in its various stages is most often eaten uncooked. Methods of eating and preparing are:

262 1. The sweet husk of the *mangalo* is chewed (*ngaungau*) and sucked until it is dry. The edible husk is not grated for use as a flavoring in other dishes, as it is elsewhere, but is eaten ungrated and uncooked by itself or with a complement of hard, mature coconut flesh (*ipiipi*) or fish.

2. Occasionally *mukomuko* is baked (*mukomuko tao*) and eaten with *ipiipi*. The leafy growth or tissue (*miko*) in the heart of the coconut tree is eaten only when a tree is blown down or cut out. It is never taken from a living tree; to do so would kill the tree.

3. Nuts at the *mata* and *katikati* stages are eaten raw or are baked (*niu mata tao* and *niu katikati tao*) and eaten without a food complement (*kinaki*).

4. The following is the method employed in making *niu kalokalo* from the *niu mata:* The drinking liquid is poured into an empty shell, and the nut is grated with the *kalokalo* implement. Then the liquid is poured back, and the grated flesh and liquid are stirred together (*ywu*). This is especially an infant's food. From the *niu mata* is also made *ipu niu kalokalo* by baking the unopened nut in the oven or by cooking on hot coals or stones a nut opened at the eyes and propped up on stones. After baking or cooking the flesh is grated and mixed with the hot liquid. This is prepared especially for sick persons. The unopened *niu mata* is cooked on hot stones (*niu mata tunu*). The hot liquid is considered especially beneficial for parturient women.

[143]

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252 262

5. The absorbing organ of the cotyledon (*uto*) of the nut at the *uto* stage is eaten raw (*uto mata*) with a *kinaki* of the *ipiipi* flesh that surrounds the *uto* or is baked (*uto tao*) without being removed from the shell.

6. A recipe (probably an importation from the Cook Islands) was given for *uto poi*. Baked *uto* is removed from the shell and pounded with the *tuki* in a *kumete* until soft, then coconut liquid of the *niu mata* or *niu kalohalo* is added to the soft *uto* and the whole thoroughly mixed and eaten.

7. A dish called *yomi* was prepared in former times by allowing the flesh of a drinking nut at the *niu matomatomoto* or *niu mata* stage to rot in sea water for 8 to 10 days or until the flesh was thoroughly decayed. Coconut cream was mixed with the flesh, the whole was baked, and *yomi*, a thick, sour, creamy food resulted. Tradition states that *yomi* was the favorite food of the Yayake people when they lived on Motu Ko and was served by them with a *kinaki* of *likoliko* talo pudding.

8. From the nut at the *yakali* or *niu papaku* stage is obtained the *ipiipi*, a common *kinaki* for fish or other foods in the absence of talo. From this *ipiipi* also is made *lolo* (coconut cream). The nut is split into two and grated (*vaku*) on the grater (*tuai*). The *ipiipi* is grated either finely or coarsely, depending on the excellence of the grater, whether the teeth are perfect and closely set or imperfect and irregularly spaced. To grate finely is *vaku vakaliliki;* to grate coarsely, *vaku vakapatapata*. These two types of grating are merely the characteristic results of particular *tuai* and are not related to the preparation of special dishes. It is desired at all times to avoid coarse grating: in proportion as the grating is coarse, the amount of *lolo* wrung from the gratings is less; and the finer the grating, the more the *lolo*. The gratings are picked up in the wringer of coconut husk fibers (*tauanga*) and wrung (*kuku*) into wooden bowls or coconut shells. The refuse (*ota*) left in the wringer after the oil is expressed is thrown away.

COCONUT OIL

302 [515]

Coconut oil is used as a hair beautifier and skin perfume. To rub oil into the hair is *omoomo;* to perfume the skin, *pani*. Oil was used mainly in the evening after bathing, when the day's work was finished. The three kinds of coconut oil are made as follows:

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1. *Valikonga: yakali* flesh is grated and wrung out into a coconut cup; shredded leaves and flowers of sweet-scented plants are added to give fragrance; according to preference, *tiale, nau, nonu,* or *maile* leaves and flowers are used. The preparation is baked over night in the oven and is ready for use the next day.

2. *Vina tutu: yakali* flesh is grated; leaves and flowers are added; the gratings are not wrung out but are placed in a coconut shell and exposed to direct sunlight for two or three days or until the gratings disintegrate and the oil separates; the oil is then wrung out into a shell. A hot stone previously fired in the oven is dropped into the oil, which is allowed to cool before being used.

3. *Vina takataka tutu:* the flesh of the *takataka* nut, which can not easily be grated, is rubbed (*olo*) on the *puaga talatala* rubbing stone. Flowers are added to the rubbings and the whole is wrung out and placed in the sun until the oil disintegrates. It is then fired with a hot stone.

302 832

All types of oil are considered equally desirable. A woman makes the one she prefers. The most common is *valikonga*, as *yakali* nuts are more readily available than *takataka* nuts. The importance of oil to the Pukapukans is well brought out in the stories and chants, where the lover always makes a careful toilet with oil before leaving the house.

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TALO DISHES

262 621 The supply of talo varies from village to village and from household to household and is conditioned also by seasonal factors:

> Ngake owns Motu Ko, and its extensive talo beds allow this village to draw on a large supply of talo. But because the reserve is distant from the village it is only during visits there to make copra that the villagers eat talo every day without stint. They bring back large baskets of talo on the return from the reserve. When this supply is exhausted, the village depends on the very limited number of talo beds on Wale, save on the occasion of large feasts when the women make special trips to the reserve to harvest talo. In general, then, Ngake does not have a large supply of talo and has to be as careful as Yato in its everyday use. Loto, on the other hand, has a regular and large supply of talo in the reserve of Uta on Wale on which it can draw constantly and extensively. This is a factor in the arrangement whereby members of households in other villages affiliate (*tau*) with Loto, so that some of this supply of talo is drawn upon by the other two villages. Yato village, with only small beds on Wale, has the least talo of the three villages. During their visits to Motu Kotawa the women fetch talo from Wale, making a constant drain on these beds throughout the year. Individual household differences within the three villages have resulted from vagaries of lineage and private ownership of the beds not communally owned.

[527] 574 264 At the present time talo is regularly harvested on Saturday in preparation for the weekly feast that follows early morning church on Sunday. A little talo is occasionally eaten as a special treat on Saturday evening with some of the fish caught that day. Left-overs from the Sabbath feast are eaten on Sunday night or Monday. On the remaining days of the week talo is rarely eaten. Exceptions to this are all holidays and special feasts. From Monday to Saturday, in the normal run of events, most households eat exclusively coconuts (drinking nuts and their flesh, *uto*, *takataka* nuts, *ipiipi* and *mukomuko*) and fish. Pandanus fruit and an occasional banana or papaya are added to this diet.

No talo dish is reserved for special occasions; any dish is made when the spirit moves. *Mauu* and *olo* are made for large feasts oftener than are the other dishes. Each must have its proper food complement. In 262 general, the *kinaki* for talo puddings is fish or pork. Special *kinaki* are mentioned for individual recipes. Informants characterize all the talo dishes, without exception, as sweet (*malie*), delicious (*vene*), and very good (*lelei lava*).

252 Talo corms are prepared for cooking by scraping (*tele*) the mud off on a scraping peg (*tukituki*) with a coconut-shell scraper (*kai*). The corms are not washed previous to further treatment. To wrap talo in leaves and make the food packet is termed *yawi*, sometimes given as *awi*. Talo preparations are:

> 1. *Lulu*. Whole corms are placed on a pile of *puapua* leaves (*wawao ki loto o te lau puapua*). The ends of the leaves are folded over the talo and the bundle tied with coconut leaves (fig. 6, *a-b*). The food packet (*lulu*) is baked in the *imu* for 1 or 2 hours.

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2. *Loloi.* Whole corms or corms cut into small pieces, according to preference, are placed in banana leaves (*ins teuti*). The package is placed on two crossed coconut leaflets, one of which is longer than the other. Two or three half coconut shells of coconut cream are poured over the corms. *Puapua* leaves are laid on top and the banana leaves folded over all. The package is fastened as shown in figure 6,*c-d* and baked in the *imu*.

3. *Tata.* Baked *talu* is placed in a wooden bowl and pounded with the *tuki* pounder until each corm is flattened. Each corm is then dipped, first on one side and then on the other, into *lolo* contained in a coconut shell. The corms are then placed side by side on a leaflet platter (*laulau*) and served.

4. *Ipu koti.* Large, well-shaped drinking nuts are opened at the eye (*mata*) end of the nut and the flesh removed. Each shell (*ipu*) is half filled with uncooked corms cut into small pieces, then filled with *lolo*. The opened end of the shell is covered with a half shell. The *ipu* are baked in the *imu* for about 2 hours. The pudding is served in the shells.

5. *Tele.* Corms are scraped into small slices with *tuhituhi* and *kai*. The slices are placed on banana and *puapua* leaves, *lolo* poured on top, and the package bundled and fastened as for *loloi*. It is baked in the *imu*.

6. *Olo.* The *pungapunga talatala* scraper is placed on a *puapua* leaf. Corms are grated to a creamy mixture (*olo*) by vigorous rubbing against the stone. The *olo* is placed in a bowl and pounded with the *tuki*. Fresh water (*vai*) or coconut liquid is added, and *lolo* is stirred in with the *tuki*. A new coconut-leaf basket (*kete launiu*) is made and lined with *puapua* leaves. Into this container the *olo* is scooped with a coconut cup. The two sides of the basket are brought together and tied at the two ends and at the middle with a single piece of coconut leaf. The leaf is passed through from side to side at one end and tied with an overhand knot; the free end of the leaf is passed to the middle, knotted again, and passed on to the far end, where it is knotted finally. *Olo* baked overnight is *olo wakaulu; olo* baked for a few hours only is *olo tao uke* (*olo*, baked to open). It has not such a crisp outer layer as *olo wakaulu*.

7. *Kanaka.* Uncooked *olo* is placed over a layer of *lolo* in a wrapping of banana leaves. The package is tied as for *loloi* and baked about 3 hours. Then the taro is removed and placed in a bowl. *Lolo* is added and the *kanaka* is broken up with a stick (*lakou puapua*) to work the brown crust on top into the pudding and the *lolo* into all. The food is scooped from the bowl with a coconut cup and served on a *laulau* platter lined with *puapua* leaves.

8. *Maruu. Kanaka* is prepared up to the stage of placing in a bowl. *Lolo* in coconut cups covered with half shells is cooked on hot stones and coals and added to the taro in the following fashion. The open cup of *lolo* is placed beside the bowl. The *tuki* is dipped into the *lolo*; with a twist of the wrist the *lolo* is scooped out of the cup and transferred to the bowl, where it is rubbed over the outside of the pudding. This is then cut into small pieces with a sharp piece of coconut shell and placed on a *pulaka* leaf. The remaining *lolo* is poured into the bowl and the cut-up taro is dipped into *lolo* and placed on the leaves, and is then ready for serving as *maruu*.

9. *Poke. Olo* is placed in a bowl, *lolo* is added, and the whole is stirred with long, circular, clockwise sweeps of the *tuki*, the left hand grasping the top of the *tuki*, the right hand below. The *poke* is placed on banana leaves, the packet tied as for *loloi*, and baked in the *imu* for about 3 hours.

10. *Likoliko.* Uncooked *olo* is placed in shells. It is stirred with a small *puapua* stick until soft. *Lolo* is stirred in, and the *likoliko* is placed in baking shells and baked for 3 hours. The cover of each cup is then removed, the food stirred and served in the cups. This dish was the favorite food of the Pukapukan navigator and warrior, Te Nana, when he visited Yayake. Te Nana is reputed to have eaten 40 to 50 cups of *likoliko* each day.

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11. *Weuu tuuu pukapuka.* Peeled corms are placed on heated oven stones (*imu pu*, the oven that has been burned) and allowed to cook for an hour or more. They are served with *ipiipi*.

12. *Weuu tukituki tuuu. Weuu tuuu pukapuka* is placed in a bowl, grated *yukali* nut flesh is added, and both are pounded until well mixed. *Lolo* is added to the mixture and the food is served in shells. The dish is considered very rich and is not often made.

13. *Pikopiko.* Very small, young talo cormlets (*pikopiko*) are peeled with the fingers. The cormlets and their petioles are broken into small pieces, placed in banana and *puapua* leaves, covered with *lolo*, and baked.

14. *Pota ulukau.* The outer skin (*kili*) of talo petioles is stripped off. The petioles and young leaves are shredded into small pieces, wrapped in *puapua* leaves, and baked. The food is then placed in a bowl, grated *ipiipi* (*ota*) is sprinkled over it, and the whole pounded together. Coconut water is added and the food served in *ipu*.

15. *Pota ulukau puaka.* When available, layers of pork fat are alternated with layers of petioles and leaves, and the whole baked in leaves. Before serving, *lolo* is poured over the food to make a rich, flavorsome dish.

16. *Tingapula.* Young talo petioles are peeled, broken into small pieces, and placed on *puapua* leaves. *Lolo* is added, the packet tied as for *loloi*, and baked.

Pulaka is considered less tasty than talo and is only eaten when the flavor of talo becomes tiresome or when talo supplies are low. Most of the dishes made from talo are also made with *pulaka*, excepting *pikopiko*, *poke*, and *pota ulukau*. The talo dish called *lulu* becomes *tao paku pulaka* when made with *pulaka*; otherwise the names are the same, for example, *loloi pulaka* and *mauu pulaka*.

Uncooked talo is buried in the ground near the cook house for preservation. It will keep thus without rotting for about three weeks. Talo brought from Motu Ko in large quantities is treated in this way. Cooked talo or fish, left over from one day to the next, is preserved by baking in a fresh oven. It is placed in the oven overnight or kept in a basket tied to the cook house rafters overnight and placed in the oven on the next day. Large talo puddings have been known to be kept for a week or more without the *lolo* in them curdling (*vi*), simply through being rebaked day after day, though after much rebaking the puddings get hard and lose flavor. The unusual thing about such preservation is that the puddings should remain so long uneaten. This occurred however after island fishing feasts. One family got a very large share of talo from the division and then had a very bad week for fish, catching practically none. Without fish for a food complement, they could not eat the pudding and so kept on preserving it in the hope that the men of the household would soon get fish.

For rebaking, talo puddings are either wrapped in *pulaka*, banana, or *puapua* leaves (*yani hi to lau pulaka ma*), or tied up in coconut leaflets (*takai hi to lauuia*). The leaflet packet is preferred when a well-browned pudding is desired. Pairs of coconut leaflets are stripped from the midrib. One leaflet is twisted lengthwise round the packet, the second widthwise, and the packet fastened securely. To make them more pliable, the leaflet ends may be first heated over a fire.

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OTHER PLANT FOODS

No origin myth is remembered for pandanus. Though it is not cultivated, pandanus grows abundantly. The keys (*penu*) may be eaten raw when ripe, with or without complement (*kinaki*). They may be sliced and baked (*wala tao*) and eaten with *ipiipi*. Grated raw and added to talo puddings (*olo wala* and *likoliko wala*) they give a sweet flavor. The juice of baked keys (*mahano*) is used in the same way. The fruit is enjoyed by adults and children and provides an important flavoring and sweetening agent in the native diet. Children crack open the keys and chew the inner kernel. The woman in the moon, Yina, is said to be seen kneeling before a stone cracking open pandanus keys.

The banana was among the items fished up by Maui. Of the several varieties of banana (*wuti*) growing on the island today, *wuti pukapuka* is said to be old and indigenous. The trunk of the tree is called *pu wuti*. *Lito* is a small banana leaf; *lauwuti*, a large leaf, used extensively in cooking as a food wrapper; *laumatu*, the old, dried, and withered leaf; *kau*, the leaf midrib; *kili*, the fruit peel; *kiko*, the flesh. Bananas are not abundant on the atoll and are not important in the daily diet. They grow in the talo beds and close to the houses. When available, they are much in favor as gifts. A household may get a small bunch of fruit from its trees once in five or six months. Bananas are ripened by hanging or by burying. A bunch (*to*) of green fruit is cut and buried in a hole in the ground 2 feet deep and lined with coconut husks. The bananas are placed on a bed of husks and covered with coconut mats (*polapola*), then more husks, and finally with earth. After three nights the bananas are ripe and are eaten raw or cooked on hot stones. If a meal is made of bananas the correct complement is *ipiipi*.

Some sugar cane (*to*) is grown today on the talo bed embankments. It is owned by the villages and at infrequent intervals is divided among all village members. The cane is peeled with the teeth and chewed by children and adults with great delight. The cane is *pona*; the rings around the cane, *va*. The few papaya trees (*ninita*) and lime trees (*tipola*) are grown on Motu Kotawa and the fruits divided among all members of Yato village. One breadfruit tree on the atoll was planted by a man from Aitutaki. Its yield of fruit is negligible.

FLESH DIET

There were two staple flesh foods in former times, sea foods (fish, turtle, shellfish, crabs) and sea birds. (See pp. 27-31.)

No tapu against the eating of raw fish exists in Pukapuka, though visitors from Aitutaki have unsuccessfully tried to introduce the idea. Actually fish is not often eaten raw. A fishing crew occasionally eats some

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of the catch raw to stave off pangs of hunger. *Kakai, pala,* and other big fish that are particularly tasty raw are usually caught on Saturday and must be saved and cooked for the Sunday feast. *Avu* (milk mullet), a small fish tasty when raw, is caught only by Yato village from its pond and is generally baked for village food divisions.

Large fish are split before cooking into four longitudinal quarters (*io*) by cutting along the longitudinal black blood canal and dividing each half into two. In the fore sections of the two bottom *io* is the choice part of the flesh called *pakoko* (fig. 7). It is fat and tasty and much preferred by pregnant women.

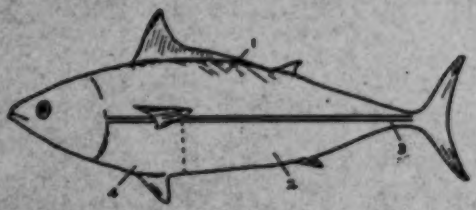

FIGURE 7.—Division of albacore fish: 1, upper sides, *io;* 2, bottom sides, *io alonga;* 3, dark-colored blood canal; 4, fat portion of flesh (*pakoko*) esteemed as special delicacy.

Small fish are not cleaned or scaled (*wolowolo*) before cooking. Larger fish are roughly scaled by working the thumb along the skin from the tail to the head. Head, fins, and internal organs are not removed. Every part of a fish is eaten.

Only two methods are used for cooking fish: grilling (*tunu*) and oven-baking (*tao*). Fish to be eaten immediately are always grilled; fish to be eaten later in the day or on the next day are baked. For grilling large quantities of fish, a special fire is always built, even though another fire is already burning in the cook house. The grilling fire is built only of coconut shells (*ngaipu*) of the *yakali* or *uto* stage, which burn with a clear, fierce flame. The fish are laid on the glowing embers and turned from time to time until cooked. Small fish, particularly *kaloma,* are spitted on a coconut leaflet midrib, about 20 fish on each midrib, with all the heads facing one way and all the tails facing the other. They are grilled thus.

When there is a larger supply of fish on hand than can be immediately eaten, fish is preserved by sun-drying (*wakala ki te la ke pakapaka*). Fish that has been dried for several days will last indefinitely. Large fish—*kakai, pala,* and *atu*—are first split into the usual four sections and twice oven-baked. Each section is then cut into smaller pieces, placed on *laulau* food platters, and hung from house eaves to dry in the sun. During the flying-fish season when there is an abundance of fish, flying fish are partially grilled on hot stones and then sun-dried. They keep for a long time without spoiling.

Turtle flesh is grilled. The only correct complement for turtle in former days was a taro dish. It was tapu to eat coconut with turtle. A man named Yawenga broke this rule, so the story goes, and the next time he went turtle fishing he was caught by a male turtle, which sounded and drowned Yawenga and then took his body to the legendary land called Valu Wetuna. It is likely that this tapu against mixing turtle flesh and coconut is associated with the displeasure of the turtle when the woman Yina broke a coconut on his head. Turtle ova (*uwa*) are eaten as well as the meat, fat, and carapace, raw or grilled. Probably turtle eggs were not eaten formerly but were left to hatch, an inference from informants' statements that it is only in recent times, since people have taken the eggs of the turtle from the nest, that turtles have been dying out.

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252 *Tridacna* shellfish (*paysa*) are eaten raw or mixed with coconut cream and baked
251 in leaves in the oven. Persons especially fond of them collect large quantities which they preserve for future use or for periods of want by stringing them on coconut midrib fibers (*kaleva*), 30 to 40 *paysa* on each string. The strung *paysa* are baked for a day or overnight and then hung from house eaves to dry in the sun for about 10 days. Thereafter they are placed in baskets and stored until wanted.

252 Wild birds are not preserved in any way. They are grilled and eaten immediately
262 after they are caught. A bird is plucked at the beach and the feathers allowed to drift anywhere. Head and claws are left attached to the body and the bird is not gutted or cleaned in any way. A length of green coconut midrib, thrust down the throat of the bird and into its stomach, is used to hold the bird over the flames and embers of a fire made of *ngaipu* coconut shells until it is suitably grilled. All the bones are picked clean; the internal organs with the small fish and seaweed in the stomach bag and intestines are considered especially tasty morsels.

262 The pig (*puaka*) and the chicken (*moa*) were introduced after white
231 contact. The pig, brought by early missionaries, is eaten today only at feast
252 times or in food divisions to pay workers for services.

A pig is led down to the beach and allowed to wallow in the sea to clean its skin before it is killed by choking. A stout stick is placed across the throat of the animal lying on its back with its legs held or tied. Men stand on each end of the stick until the animal is dead. The dead beast is singed (*muumuia*) with flaming coconut leaves and the skin scraped (*vuluvulu*) with a coconut shell. It is washed (*palupalu*) again in the sea so that the skin is clean (*makitakita*). The animal is then placed on a bed of coconut leaves laid on the ground. The stomach is opened up, the internal organs (*ngakau*), heart and liver, are removed and washed in the sea. The blood is caught in coconut cups and baked in them (*toto momoyo*, cooked blood). The intestines are grilled on hot stones; the liver and heart are wrapped in banana leaves and oven-baked. The whole pig is baked in an oven for 4 or 5 hours, according to the size of the animal,
[554] and then butchered and shared among the participants in the feast. The head (*ulu*), reserved for the chief, is cut off first; then in order the fore legs (*lima*), hind legs (*vae*), ribs (*iti kayokayo*), back (*tua iti*), and finally the hind quarter (*mulimuli*) are butchered. All these portions, together with the heart and liver, are again subdivided into the required number of smaller portions (*pona*). Save for the special portion for the chief, there is no reference in this division to rank or status.

[177] Hens and roosters were introduced by a captain of a trading schooner
231 whom the Pukapukans called Wuluwulu (Hairy-one) when he visited Puka-
262 puka some time after the mission was well started in Samoa but before it was established in Pukapuka.

431 Chicken eggs play no important part in the diet today. It is probable that they were formerly left in the nests to hatch. At the present time eggs are used as gifts to
252 visitors. We saw only one Pukapukan eating an egg, a child eating a hard-boiled egg. A great deal of trouble is taken over the raising of chickens, but at the present time they are rarely eaten. No household has enough chickens to have a chicken dinner very often. Only once, during the Christmas feasting, was a native family seen eating a chicken for a meal. A woman or a child chases the chicken to be killed, then hits the bird on the head until dead. Women or girls pluck the feathers, which are thrown into the sea. The body is singed, the head cut off, and the internal organs removed. The heart and liver are washed and baked on hot stones; the body is wrapped in banana leaves and baked in the oven. A live chicken, talo, and nuts are the usual gift feast sent to honor a friend. Only chickens found strangled in the trees or killed by the women's committee when found in the talo beds are regularly eaten by their owners.

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fiber joining end pairs resting in these nicks. The carrying pole is discarded when the worker returns to the village. Shaped, permanent carrying poles are never used.

A spatula-shaped implement (*kalokalo taumaya*, C8038) of *ngangie* wood is used to scrape out the soft flesh of the drinking nut. One end has a sharp point used for opening the nut by piercing the soft eye. The other end is broad and is used for scraping out the flesh after the liquid has been drunk. The implement is a combination of scraper and spoon.

A hand grater (*kalokalo ui mata*, C8091) is used for grating the flesh of the coconut to make the coconut food called *niu kalokalo*. The blade is the *uyoloto* section of a pearl shell. The nacreous inner surface of the shell forms the front surface (*aloalo*) of the blade, the black outer surface forms the back (*tua*) of the blade. The teeth of the serrated edge of the blade are termed *mata*. The blade is fixed to the handle of *ngangie* wood by 17 transverse turns of three-ply sennit, with buried commencement and finishing ends.

A stand grater (*tuai*) is used to grate the flesh of the mature coconut to make coconut cream. No shell graters (fig.12,*b*) are in use on the atoll today, but the stand-grater principle is retained in the use of a toothed metal grater attached to a wooden arm which is fastened to a box. To use the shell grater, the worker sat on the horizontal base. Holding the half coconut with both hands, she worked the flesh against the grater teeth with a downward rotary movement. The gratings fell onto a coconut mat on which the grater rested.

A coconut cream wringer (*tawonga*) is made from the husks of the coconut at the *niu mata* stage after burial in beach sand to mascerate the interfibrous material. The husks are beaten with a stick to remove the decayed parts, washed in water, and are ready for use when dry.

Food packages for transporting talo pudding or fish are made by placing the food on the platter called *laulau ava loloi* and then folding back the two tails (*wakapona*) of its finishing edge over the food; the tails are pushed through the plaiting just below the midrib commencement edge, their free ends tied in a reef knot to make a compact package.

Water containers (*wowongi;* fig.13,*a*) are made from especially large coconut shells. The husk is removed and the shell opened at the soft eye. The liquid is poured off and the shell filled with salt water. When the flesh has rotted, it is removed through the soft hole with a special scraper called *vaiuyi* or *valu wowongi* (fig.12,*a*). A handle of sennit is tied to the netting on either side and the containers hung in pairs (*uwoi*) to the rafters of the cook house. No containers were seen in use, their place being taken by buckets or empty cans.

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244 412 Various implements are used in the harvesting and preparation of talo. The worker in the talo gardens formerly sliced the petioles from the corms with a cutting implement (*taku*, C8096, C8097) made from the backbone of the turtle. This knife was also in general use as a cutting implement as was a knife (*pala*, C8145) made of the jawbone and attached teeth of the *pala* fish (*kaveao pala*). No spade was used for replanting talo; if the ground was hard it was first loosened with a short, straight digging stick (*koyo*).

252 712 Talo is prepared for cooking by scraping the dirt from the corm. A scraping peg (*tukituki tete uouu*, C8083) is made from a section of coconut midrib (*palelauu*) about 17 inches long. The proximal end of the peg is rested on the ground and the distal end placed against a half coconut shell or piece of wood of suitable height 6 inches from the distal point. The worker holds the proximal end of the peg tight by resting her left knee on it. She holds the corm with the left hand at the distal point of the peg and scrapes (*tete*) the corm downward and toward the body with a scraper (*kai*). The *kai* (C8084) is the bottom portion of a small, discarded dry coconut shell. Part of the outer edge circumference is cut away to form a short cutting edge.

After the scraping, the talo may be sliced (*tole*) into sections with the *kai* scraper, cooked whole, or grated on a stone grater (*uatu ola uouu*). A typical grater (C8053) is a block of coral (*punga talatala*) with a rough surface. The block weighs 8 pounds, is 15½ inches long, averages 6½ inches wide, and is 3 inches thick. The worker sits before the stone and rubs the corms under pressure up and down the surface of the stone.

An oven spreader, used for spreading (*tolo*) the hot stones of the oven is a section of the butt end of a coconut midrib (*palelauu*). Oven tongs (*pingoi* or *mangoi*, C8191) are made of a piece of coconut midrib, 18 inches or more long. The leaflets are trimmed from the side edges and the midrib doubled so that the outer fibers snap while the inner ones remain to form a sort of hinge. The tongs are green when first made but dry quickly and become brown. Tongs are in constant use for shifting the hot stones of the native oven.

252 412 413 Cooked talo is pounded and mixed with coconut cream in a wooden bowl (*humete*). A small bowl is shown in figure 13,*a*. A common type pounder (*tuki*) of *ngangie* wood is shown in figure 13,*b*. Pounders in use become polished with oil. Those seen in use ranged from 1 foot 5 inches to 1 foot 7 inches long, with 3¼ inches diameter of pounding base. A cone-shaped proximal end is common, but a few pounders have a terminal knob. A larger wooden stirrer (*yeu*) also of *ngangie*, is shown in figure 13,*c*. Other bowls in use were examined in the field. They may be briefly described to

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Bowl Name	Longest Diameter	Shortest Diameter	Depth	Remarks
—(1)	21"	15½"	7"	No lugs.
—(2)	17"	11"	4"	Right lug plain, bored with hole to facilitate hanging. Left lug conventional phallic symbol. (See fig. 13*d*).
Pilato	6' 7"	2'	12¼"	Each lug 9" long and carved into realistic phallus. Bowl holds 1000 taro corms. Two food mixers accompanying this bowl are of ngangie wood, each 23½" long and 2½" diameter at pounding base.
Pulemaimua	4' 8"	1' 9"	18"	Lugs plain, 11½" long and 3" diameter in cross section. Bottom shaped like a turtle back (tua woma) and propped with stones when in use. Holds 400 corms.
Elia	6' 4"	1' 3"	10¾"	Lugs plain, 11" long, 4" by 2" in cross section. Turtle-backed. Holds 1000 corms.

Large coconut shells in which to cook taro are set aside whenever they are available. The cook always tells a person about to open a large coconut to crack it with care and put aside the shell when he has drunk the liquid and scooped out the flesh. Shells are thrown away after being used once as cooking utensils.

PLAITING

Plaited articles of coconut leaf or pandanus material are still in common use in Pukapuka. Among these articles are plaited roof sheets and wall screens, floor and sleeping mats, and articles used for transporting, storing, and serving foods. Formerly plaited articles were used also for everyday and ceremonial dress.

In the following brief description of Pukapukan plaited articles, the terminology used is that established by Buck (27, pp. 164-168).

Pandanus Material

Pandanus trees are not cultivated to provide material for mat making. Plaiting material prepared from the leaves (*lau*) of the *uala* variety is termed *lito*, and from the *yulu* variety, *lauvilu*.

The method of preparing *lito* material is as follows:

A woman collects green pandanus leaves from trees in the reserves and brings them back to the village. While the fire she has made of dry coconut midribs and butts is burning, she takes each leaf and slices off (today with a knife, formerly with a sharp